Lesson 13

State and Local Issues in Surveillance

Instructor's Guide Form

Lesson Title: State and local issues in surveillance

Lesson Goal: For each learner to be able to discuss the responsibilities and issues of state and local public health professionals in surveillance

Lesson Objectives: By the end of the lesson, each learner will be able to:

1) describe the authority for reporting surveillance data at the state and local level

2) describe the sources of surveillance data

3) discuss the issues in the maintenance of a list of notifiable diseases

4) describe the analysis of data

5) discuss resources for surveillance at the state and local level

6) describe approaches to translate data into action

Equipment and Materials Needed:

- Overhead projector
- Transparencies #13.1 - #13.13

Time Required: 45 minutes

Synopsis of Lesson: This lesson describes the issues in surveillance from the state and local level perspective.

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State and Local Issues in Surveillance

Instructor's Guide Form (continued)

Adult Education Application: At the conclusion of this chapter, the instructor could engage learners in an interactive discussion that attempts to outline the differing state and local priorities and uses of data for a surveillance system. The instructor could ask the learners to list the characteristics of a surveillance system that would be useful to make local level decisions, as opposed to the system useful at a state and / or national level. The instructor could process this information further by asking the learners how surveillance systems will respond differently at local, state, and federal levels to political, social, economic, and medical pressures.

Lesson 13

State and Local Issues in Surveillance

Topical Outline

I. Authority for reporting surveillance data
- A. Authority for public health surveillance in U.S.
- B. Link to action

II. Sources of surveillance data
- A. Data sources available at the local level in all states
- B. Notifiable diseases
- C. Sentinel systems
- D. Hospital-based surveillance
- E. School-based surveillance
- F. Surveys at the state and local level
- G. National Mortality Registration System
- H. Other data sources

III. Maintenance of a list of notifiable diseases
- A. Reasons to revise lists periodically
- B. Criteria used to set priorities for National Disease Surveillance, Canada

IV. Analysis of data
- A. Problems with comparison of rates
- B. Most common types of analyses of surveillance data

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State and Local Issues in Surveillance

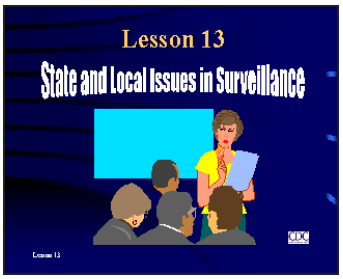
Topical Outline (continued)

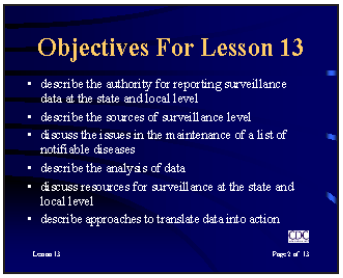
V. Resources for surveillance

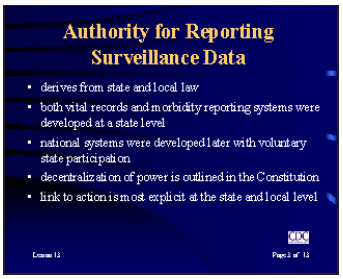
A. A model system for surveillance at state or local levels does not exist
B. Costs

VI. Approaches to translate data into action

A. Investigation of suspected outbreaks
B. Change from passive to active surveillance to further and more accurately characterize the extent of a problem
C. Physician and laboratory alert
D. Alert population with susceptibility to a health problem
E. Assessment protocol for excellence in public health
F. Challenges







Lesson 13

State and Local Issues in Surveillance

Content Outline

Lesson Objectives:

- **Describe the authority for reporting surveillance data at the state and local level**
- **Describe the sources of surveillance data**
- **Discuss the issues in the maintenance of a list of notifiable diseases**
- **Describe the analysis of data**
- **Discuss resources for surveillance at the state and local level**
- **Describe approaches to translate data into action**

I. Authority for reporting surveillance data

A. Authority for public health surveillance in U.S.

1. derives from state and local law
2. both vital records and morbidity reporting systems were developed initially at the state level
3. national systems were developed later with the participation of all states being voluntary
4. decentralization of power is outlined in the Constitution of the United States

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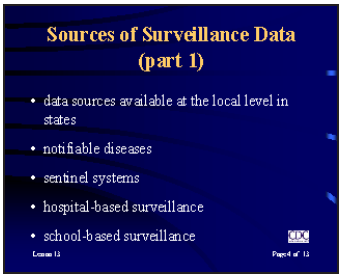

B. Link to action

1. most explicit at the state and local level

2. to assure information needed for public health action is obtained in the most efficient and cost-effective manner, the objectives of state and national surveillance must be considered as systems are developed or redesigned

II. Sources of surveillance data

A. Data sources available at the local level in all states

1. vital records

2. notifiable-disease reports

B. Notifiable diseases

1. all 50 states require that physicians report cases of notifiable diseases to the appropriate state or local health department

2. legal authority for the collection of this information rests with state statutes that are promulgated in state regulations

3. diseases that are reported vary by state

4. notifiable diseases reporting system was initially developed for reporting epidemic diseases, i.e., smallpox, plague, cholera, and yellow fever (mechanism still most commonly used for surveillance of infectious diseases)

5. reporting for noninfectious diseases
    a. less uniformly required
    b. in many states reporting of specific occupational or chronic diseases is required by statute

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C. Sentinel systems

1. used to supplement information available through the notifiable-disease reporting system

2. example: Missouri
    a. organized to represent the six public health districts in the state
    b. over 500 sites including: schools, hospitals, day care centers, preschools, and nursing homes
    c. provides timely information on reportable diseases
    d. system also provides data on a variety of non-reportable conditions (not mandated)
3. uses of sentinel systems
    a. useful when precise counts of cases are not needed; provides trend data
    b. useful when a public health response is not necessary for individual case reports
    c. used to facilitate collection of additional risk factor and other information on a subset of case reports, thus limiting the overall burden of data collection
    d. maybe a more efficient mechanism to collect public health surveillance data

D. Hospital-based surveillance

1. most commonly developed at the state and local level for surveillance of injuries

2. used by hospitals for nosocomial infections

3. also used for assessment of unmet health needs by identification of preventable disease

4. limited usefulness for communicable disease

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E. School-based surveillance

1. some states use this to monitor disease trends among children of school age

2. used for influenza and varicella

3. in many states, notifiable-disease regulations mandate reporting of specified diseases by school authorities

F. Surveys at the state and local level

1. data at the state or even local level are need for health planning or to support legislative initiatives

2. Behavioral Risk Factor Surveillance System (BRFSS)
    a. coordinated by CDC since 1981
    b. telephone surveys of adults to obtain information on health practices and behavior
    c. allows estimation of age-and gender-specific prevalence of various risk factors by state

3. Youth Risk Behavioral Surveillance System (YRBSS)
    a. surveys behavioral risk factors among young people
    b. measured through state and local school-based surveys

4. county or community surveys
    a. useful in areas with small populations
    b. useful in situations in which morbidity or mortality data may be of limited usefulness to monitor the impact of interventions

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G. National Mortality Registration System

1. death registration is virtually complete in the U.S.

2. at the state level, mortality data are available before national data are compiled and released

3. useful at the local level to identify preventable mortality

4. useful to set health priorities in the community

5. helpful in developing community-based prevention programs for chronic disease

H. Other data sources

1. other types of surveillance
    a. monitoring of environmental quality
    b. illnesses of domestic and wild animals
    c. vector populations

2. arbovirus surveillance
    a. monitoring of vectors, vertebrate hosts, human cases, weather
    b. detects or predicts changes in the transmission dynamics of arboviral infections
    c. guidelines in U.S. have recently been developed

3. laboratory-based reporting can be a valuable adjunct to physician-based reporting
    a. cannot replace reporting by physicians for all diseases
    b. some reportable diseases are clinical syndromes, requiring clinical judgement
    c. physicians may have additional information that is epidemiologically important but is not known to the laboratory

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I. Provider-Based Reporting: Special issues

1. reasons cited by physicians for failure to report notifiable diseases, in approximate order of importance
    a. assumed that the case would be reported by someone else
    b. unaware that disease reporting was required
    c. do not have notifiable-disease reporting form or telephone number
    d. do not know how to report notifiable diseases
    e. do not have copy of list of notifiable diseases
    f. concerned about confidentiality
    g. concerned about violation of doctor-patient relationship
    h. reporting is too time-consuming
    i. absence of incentives to report

2. other factors contributing to low level of reporting
    a. persons with asymptomatic infections or mild disease are unlikely to seek medical care
    b. of those who seek care, not all will receive a specific diagnosis

3. Provider-based reporting special issues
    a. completeness of reporting of communicable disease is variable
    b. for most diseases in most locations, reporting is thought to be low
    c. the more common the disease, the worse the reporting
    d. the rarer the disease, the better the reporting
4. what local and state health departments can do to improve reporting by physicians
    a. revise the reporting procedures including the reporting forms
    b. improve the dissemination of findings - feedback

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c. informational campaigns regarding the importance of reporting
d. outline the procedures for reporting
e. use some active surveillance
f. express an interest in disease reporting to those responsible for reporting
g. maintain and disseminate a reasonable, up-to-date list of reportable conditions
h. educate medical students, house officers, and nursing students
i. educate local medical groups
j. inform in conjunction with licensure
k. maximize contact with the medical community
    1) presentations
    2) mailings
    3) newsletters
    4) telephone contact
    5) mass media
    6) use the data

III. Maintenance of a list of notifiable diseases

A. Reasons to revise lists periodically

1. public health priorities change

2. epidemiology of specific conditions change

3. available public health interventions change

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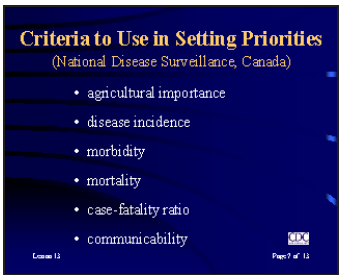
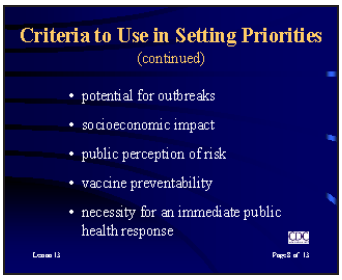


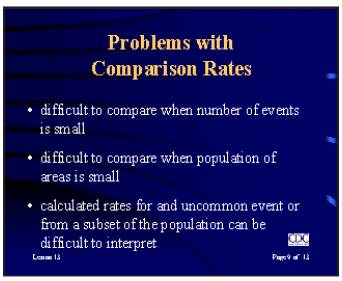


B. Criteria used to set priorities for National Disease Surveillance in Canada

1. surveillance by the World Health Organization
2. important to agriculture in Canada
3. disease incidence
4. morbidity (hospital days and short-term disability)
5. mortality
6. case-fatality ratio
7. communicability
8. potential for outbreaks
9. socioeconomic impact
10. public perception of risk
11. vaccine preventability
12. necessity for an immediate public health response

IV. Analysis of data

A. Problems with comparison of rates



1. difficult to compare when number of events is small
2. difficult to compare when population of areas is small
3. calculated rates for an uncommon event or from a subset of the population can be difficult to interpret

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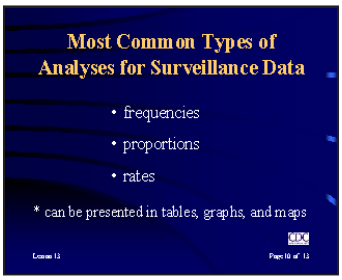


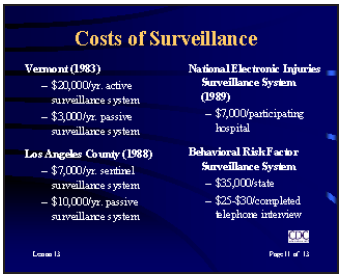
B. Most common types of analyses of surveillance data

1. frequencies
2. proportions
3. rates
4. all can be conveniently presented in tables, graphs, or maps

V. Resources for surveillance

A. No model system for surveillance at state or local level exists

B. Costs



1. there are only a few published reports that address the cost of routine surveillance systems for communicable disease in state health departments

2. Vermont estimates (1983)
    a. $20,000 annually for active surveillance system
    b. $3000 annually for passive surveillance system

3. Los Angeles County estimates (1988)
    a. $10,000 per year for passive surveillance
    b. sentinel active surveillance additional cost approximately $7,000 per year
    c. included student instead of professional staff time
    d. did not include time expended in recording reports at the health department

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4. National Electronic Injuries Surveillance System
    a. $7000 in 1989
    b. for single participating hospital entering data for 2000 persons

5. Behavioral Risk Factor Surveillance System
    a. costs shared by CDC and participating state health departments
    b. in 1987, costs per state was approximately $50,000
    c. equivalent to $25 to $30 per completed telephone interview

6. more complete and accurate documentation of costs may facilitate funding

VI. Approaches to translate data into action

A. Investigation of suspected outbreaks

B. Change from passive to active surveillance to further and more accurately characterize the extent of a problem

C. Physician and laboratory alert

D. Alert population with susceptibility to a health problem

1. Utilize media

2. Develop legislation to protect the public
    a. example: antismoking policies in public buildings
    b. FDA statements on cooking and handling procedures for poultry

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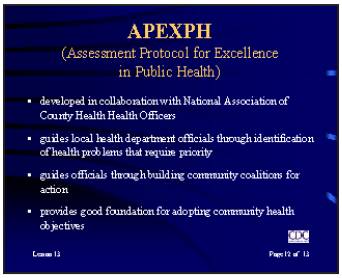
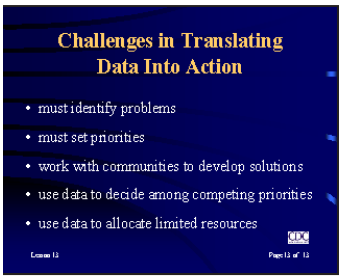


E. Assessment Protocol for Excellence in Public Health (APEXPH)

1. developed in collaboration with the National Association of County Health Officers
2. guides local health department officials through identification of health problems that require priority attention
3. guides officials through building of community coalitions for action
4. provides a good foundation for adopting community health objectives



F. Challenges

1. must identify problems
2. must set priorities
3. work with communities to develop solutions
4. use data to decide among competing priorities
5. use data to allocate limited resources

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